Abstracts

A miniature MMIC double doubly balanced mixer using lumped dual balun for high dynamic receiver application

Hwain-Kaeo Chiou and Hao-Hsiung Lin. "A miniature MMIC double doubly balanced mixer using lumped dual balun for high dynamic receiver application." 1997 Microwave and Guided Wave Letters 7.8 (Aug. 1997 [MGWL]): 227-228.

A simple dual-balun structure is proposed for a miniature monolithic microwave integrated circuit (MMIC) double doubly balanced mixer (DDBN) design. The dual balun is realized by using two out-of-phase power splitters in parallel, which are then applied in a DDBM mixer. The measured conversion loss of the mixer is less than 10 dB for a radio frequency (RF) bandwidth of 2-5.5 GHz and fixed intermediate frequency (IF) output frequency of 2 GHz. The mixer achieves a high input IP3 of 24 dBm and a 1-dB compression input power of 13 dBm at 17-dBm local oscillator (LO) drive. The chip area of the mixer is less than 1.0/spl times/1.4 mm/sup 2/, which is the smallest size ever reported for monolithic DDBM mixers.

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